

Some New or Little-known Genera of Empididae.*

A. L. MELANDER, Pullman, Washington.

In the following pages are noted the occurrence in North America of several genera of the dipterous family Empididae, that are not given in our publications. Their publication is given at the present time in order to explain more fully the citations that will appear in the forthcoming edition of Dr. Williston's Manual.

TACHYDROMIINÆ.

CHERSODROMIA Walker.†

This genus is known from six European species and one from Australia. We have one described species in our fauna that belongs to this genus. It is *Stilpon houghii* Melander, placed in Professor Aldrich's Catalogue of the North American Diptera in the genus *Coloboneura*.

THINODROMIA gen. nov.

Thinodromia inchoata spec. nov.

Thick-set, black, pruinose, black-bristly little species with dorsal arista and aborted wings. Eyes deeply emarginate at the antennæ, the facets uniformly large: face and front of male and female similar, of equal length and uniform breadth, gray pruinose; the hollowed vertex also gray pruinose, with three large ocelli, and strong ocellar bristles; occiput gray pruinose, the occipital bristles moderate; palpi large, flat, elongate-ovate, white pruinose, with a few black hairs, overlapping the proboscis; proboscis very stout, pointed, bent back; antennæ three-jointed, though the first joint minute, the third joint short-ovate with a long arista arising from near the middle of its dorsal side, the basal joint of the arista short, the outer long and microscopically plumose.



The pollen covering of the dorsum of the thorax more or less golden; mesopleura with a polished black area not pruinose; humeri not constricted; humeral and supra-alar bristles large, acrostichal and dorso-

*Contributions from the Zoological Laboratory of the State College of Washington.

†(Ins. Brit. I. xx., p. 137, 1851.)

central rows small, between the dorsocentrals and the pleura are a few irregular bristles; scutellum with two long and two outer short bristles; pleura without bristles.

Abdomen short-cylindrical, but very robust, in the male, the bristles becoming longer posteriorly, those of the seventh segment nearly as long as the last four segments; each segment with a single large lateral pit; hypopygium large, globose, closed, somewhat asymmetrical and twisted to the right, the small apical organs nearly dorsal, the hypopygium is less pruinose than the anterior portions of the body, posteriorly with long black bristles.

Legs short, robust, piceous-black, rather closely covered with short black bristles, those of under side of front femora and of outer apical side of hind femora more prominent, all the femora moderately thickened, the tarsi somewhat flattened distally.

Wings vestigial, more or less triangular in outline, horizontally extended over the abdomen, though reaching only to the third segment, opalescent gray, a spot including the marginal cell and another around the posterior cross vein infumated; veins yellowish, costal cell and the first two basal cells distinct, marginal cell much shortened, humeral cross vein distinct, no trace of anal veins, costa bristly.

Length, 1.25 to 1.50 mm.

This species was collected in some numbers at Monterey, California, by Professor J. M. Aldrich, in May of this year. The flies were running over the hot dry sands above the sea beach in company with *Parathalassius aldrichi*, hereinafter described. Professor Aldrich states that the species could be easily caught by scooping an individual, sand and all, in one's hand. The insect would run to the edge of the hand and could be readily dropped in the collecting bottle. It is rather strange that the swarms of these two interesting species should have been overlooked by the previous collectors in that neighborhood.

Professor Mario Bezzi in his paper, "La Riduzione delle Ali nei Ditteri,"* mentions but two species of Empididæ with shortened wings. Both belong to the same sub-family as the present form. *Tachista microptera* Loew lives about stones in the inland; *Chersodromia arenaria* Haliday is from the seashore.

*Rendiconti d. R. Inst. Lomb., Vol. xxxiii, 1900.

SYMBALLOPHTHALMUS Becker.*

But one species, *S. dissimilis* Fallen from Europe, has been included in this genus. *Elaphropeza montana* Melander is a slender species much like *dissimilis* which may well be placed in the genus *Symballopthalmus*. There are also certain species described as *Platyfalpus*, e. g. *canus*, *inops*, *hians*, which agree better with *Symballopthalmus* in that they lack the spur of the middle tibiæ and have the two basal cells of the wings equal.

It may be stated in this connection that *Elaphropeza* can be considered but as a subgenus of *Drapetis*. The type (*E. ephippiata*), which is the only European species, and the seven other species, all exotic, differ from *Drapetis* only in a comparative lengthening of the last antennal joint. Throughout the western United States we have a very common species of *Drapetis* (*D. unipila* Loew), which naturally shows some variation. An extreme form, which I reluctantly described as *medetera*, for I hesitated a long time before concluding it to be specifically distinct, has the third antennal joint twice the normal length. Inasmuch as there are intergrades it is unwise to give this single character generic value; cf. D. W. Coquillett, Proc. ent. soc. Wash., 1903, p. 265.

HYBOTINÆ.

PRORATES gen. nov.

Head globular but depressed, the face extremely short. Eyes contiguous on front in the male, the facets of the upper two-thirds enlarged: antennæ two-jointed, the first joint minute, the second compressed, conical, without a style or arista: proboscis rigid, shorter than height of head, projecting horizontally forward.

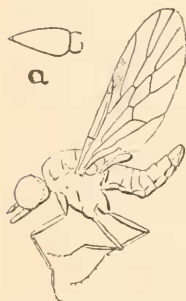
Thorax but little convex, one prealar, one supra-alar, and two scutellar, but no other bristles present: tegulæ minute, with white cilia. Legs slender, nowhere thickened, devoid of bristles, pulvilli minute. Abdomen slender; genitalia blunt, conical, not enlarging the diameter of the abdomen, entirely included within two lateral valves, no projecting parts.

*Wien. ent. Zeitg., viii, 285, 1889.

Wings broad, anal angle rectangular, auxiliary vein ending in the costa at the middle of the wing, the costa extends to the third longitudinal vein; a black elliptical stigma surrounding the tip of the first vein; joint origin of the second and third veins arising nearer the humeral than the anterior cross vein; third longitudinal vein furcate before the middle of the first posterior cell: discal cell pentagonal, emitting two posterior veins of which the anterior is furcate; none of the posterior veins attain the wing margin; all the basal cells large, the discal cell small; anal cell longer than the second basal, its outer angle acute, anal vein reaching the wing margin.

Prorates claripennis nov. spec.

Malc.—Length, 3 mm.—Black over all, dorsum of thorax olivaceous, with two fuscous vittæ, pleura and occiput lightly cinereous, abdomen not dusted. Occiput and abdomen with very fine pale scattered hairs. Legs entirely black. Wings pure hyaline, the stigma and veins blackish. Halteres black.



Prorates claripennis—a,
antenna.

Two males, collected by Mr. H. L. Viereck, at Highrolls, New Mexico, June 12 and 13, 1902.

OCYDROMIINÆ.

PARATHALASSIUS Mik.

The genus *Parathalassius* was erected by Professor Joseph Mik* for a small silvery-gray species collected on the sands near Venice, in May. The species was found in a search for the Dolichopodid *Epithalassius*, but it was not discovered until the collected material was worked over, owing to a remarkable resemblance between the two species. Only females of the Empidid were taken, although apparently the species was very common.

In May of this year Professor J. M. Aldrich chanced on a similar silvery-gray form sporting on the arid sands at Monterey, California. Although no specimens of the European

*Wiener Entomologische Zeitung, X Jahrg., p. 216, 1891.

species are at hand for comparison, the agreement of our form with Professor Mik's description makes us believe the two forms to be congeneric. Like so many of the other Diptera living on the sand,* *Parathalassius* is conspicuous by its dense coating of pollen. Even the hairs and bristles are glistening white, so that the males especially, when viewed from in front, are ornate with a silvery sheen.

The European species (*P. blasigii*) possesses several conspicuous white hairs on the under side of the hind femora, and these are lacking in the California form. Moreover, in *blasigii* the first posterior cell is narrowed at its apex. Otherwise, our species tallies well with Mik's description.

***Parathalassius aldrichi* sp. nov.**

Malc.—Length, 2.75 mm.—Entirely silvery-gray pruinose, all the bristles white. Vertex broad, concave, silvery pruinose: ocelli widely separated; one pair each of vertical, frontal, and ocellar bristles; face very narrow below the antennæ, concave, broadening at the convex clypeus, closely covered with short silvery-white pubescence, lower facets of eyes large, those of the lowermost third concealed by a dense covering of silvery-white scale-like hairs. Eyes not at all emarginate at antennæ. Antennæ black, three-jointed, though the first two joints are minute, third joint short-oval, pointed, with a long terminal bristle-like arista. Occiput silvery-gray pruinose, occipital bristles seriatly arranged below, and forming a ciliate fringe to the eyes. Proboscis and palpi minute, blackish,



Parathalassius aldrichi
and face of male.

Thorax silvery-gray pruinose, the dorsum with scattered short white hairs, and with eleven pairs of short achrosticals, six pairs of long dorsocentrals, three pairs of supra-alar and three long humeral and posthumeral bristles: scutellum with four marginal bristles, no pleural bristles.

Abdomen short, with numerous white hairs, when viewed from above or the right, with but four visible segments, the second segment longest and bearing a basal transverse row of black pores. Hypopygium very large and globular, comparatively bare though pruinose, asymmetrical,

*e. g. *Lipochacta*, *Thinophila*, *Thereva*, *Stichopogon*, etc., and the Empidid genera *Schistostoma*, *Coloboneura*, *Halsanalotes*, and *Chersodromia*.

attached to the left side of the body and bent forward and to the right, thereby crowding the small fifth, sixth and seventh segments to the left of the median line.

Legs slender, white bristly, middle tibiae with small white apical spurs, the joints of the middle tarsi with small black apical spurs, under side of front femora and sides of hind femora ciliate with longer white bristles; pulvilli broad, empodium hair-like.

Halteres white. Wings whitish, veins strong, blackish, less dark basally, base of costa with a few white bristles, third longitudinal vein simple, four posterior cells, anal cross vein perpendicular to the anal vein.

Female.—Differs from the male as follows: Facets of eyes uniform, nowhere concealed by pubescence. Abdomen with five dorsal flattened segments, its apex jet black.

Over two dozen specimens of this species were saved by its collector. The type locality is the dry sands in back of the beach at Monterey, California. It gives me much pleasure to be able to dedicate this species to my dear friend and neighbor, Professor J. M. Aldrich, who discovered this interesting fly, and to whom we are indebted for a large proportion of what we know of the species of this family.

***Parathalassius candidatus* sp. nov.**

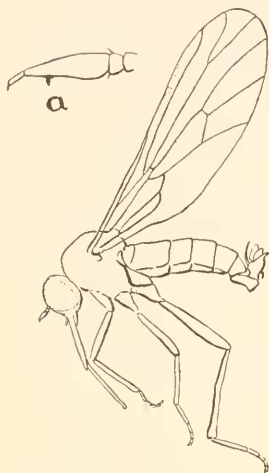
After the description of *Parathalassius* was sent to the ENTOMOLOGICAL NEWS, Professor Aldrich discovered among his collections another specimen of the genus, but which, on account of its larger size and more bristly appearance, is distinct from the Californian form. This individual, a female, was collected at Friday Harbor, San Juan Co., Washington, during the summer of 1905. Professor Aldrich is its discoverer also.

Female.—Length 3 mm., length of wing 3.25 mm.—This species differs from the preceding only as follows: Face slightly broader; hairs of occiput more dense. Dorsum of thorax with two narrow black vittæ, each of which is bounded by rows of bristles, so that there are four rows of dorsocentrals, with about fourteen bristles to each row. Between the acrostichal bristles and the humeri is a close aggregation of short bristles, which are represented in *P. aldrichi* by a few bristles only. Scutellum with six marginal bristles. The three black pits along the lower edge of each abdominal tergite are large and conspicuous. Ovipositor large, trough-like, exerted backwards from under the last segment. Bristles of legs stronger, not recumbent but projecting; spurs

of middle tibiæ much reduced; hind metatarsi somewhat compressed; tarsi entirely black. In *aldrichi* the base of the metatarsi is somewhat yellowish. Anal vein three times the length of the anal cross-vein, in *aldrichi* it is less than twice as long as the cross-vein.

EMPIDINÆ.

TOREUS gen. nov.



Toreus neomexicana—a, antenna.

Male.—Entirely devoid of bristles. Eyes broadly separated, the lower facets larger: basal joint of antennæ small, last joint twice as long as the basal joints together, compressed conical, rather blunt; the style one-eighth the length of the third joint. Proboscis three times the length of the head, the rigid rostrum three-fifths the length of the labella: palpi short and incumbent. The proboscis extends downward and somewhat forward, and not backward, in the dried specimen.

Thorax entirely without bristles, no metapleural setæ. Abdomen robust, cylindrical, somewhat depressed apically, consisting of but six segments, the seventh forming a horizontal inverted hood-like peduncle to the hypopygium; no pits visible on any segment: hypopygium consisting of two triangular chitinous lateral claspings valves, which enclose a pair of upright decussating flattened filaments; intromittent organ curved and pointed, projecting downward from between the bases of the lateral valves; arising from the inner base of the hypopygium are a pair of curved slender diverging filamentous appendages which project above the height of the hypopygium.

Legs not long, without bristles, but with fine hairs, without apophyses or thickenings, front metatarsi two-fifths the length of the hind ones, hind tibiæ bent outwardly at their middle, pulvilli small.

Wings rather broad, anal angle broadly rounded, costa encompassing the entire wing, anal vein not or but little continued

beyond the anal cell, auxiliary vein straight, vanishing at the middle of the wing, remaining veins attaining the wing margin, the two basal cells equal in length, the anterior branch of the third vein sinuous, rather long, the second submarginal cell but slightly longer than the first along the costa.

Type: *Empis neomexicana* Melander.

ANTHEPISCOPUS Becker.*

Becker has described two European species of *Anthepiscopus*, *caelebs* and *ribesii*, and there is one from New South Wales (*antipodalis* Bezzi). We have a species collected at Seattle, Washington, which agrees with the description and figure of *ribesii*, but in the absence of typical specimens for comparison I hesitate before deciding as to its specific identity.

HESPEREMPIS gen. nov.

Male.—Eyes separated, broadly above and narrowly below the antennæ, the facets uniform in size. Antennæ inserted high, the triangular front therefore short, three-jointed, the first two joints together as long as the third, the third joint conical, compressed, with a short two-jointed style. The first joint of the style is thick, the second very slender. Proboscis very short, sharp and incurved, as in *Hormopeza*, etc. Palpi broad, slightly longer than the proboscis, and recumbent upon it, the upper surface with a few fine hairs. Ocellar triangle without bristles, occiput with a few fine short hairs, face bare.

Thorax entirely without bristles, scutellum with six fine marginal hairs, metapleura bare. Abdomen slender, provided with few fine marginal hairs only; a transverse series of minute pits present at the base of the second abdominal segment: hypopygium terminal, flattened above, globular otherwise, not enlarged, entirely enclosed in a pair of convex lateral pieces, with no dorsal or terminal processes. Legs slender, simple, rather sparsely provided with fine pubescence, but entirely devoid of bristles; pulvilli small, empodium microscopic.



Hesperempis mabelae Mel.—
a, antenna.

*Wien. ent. Zeitg., X., 281, 1891.

Wings long slender, anal angle obtuse, not prominent, costal vein encompassing the entire wing, auxiliary vein straight, vanishing at the middle of the wing, stigmal spot faint, elongate, third vein branched, the anterior branch long, as in *Hilara*, discal cell narrow, acuminate apically, second posterior cell narrowed at the base, the contact of the third and fourth posterior cells with the discal cell equal, anal vein shortened, anal cross vein recurved and fused with the anal vein.

This description is drawn from an enigmatical little fly described as *Rhagas mabelae*. The insect is evidently an Empidine, but can not be assigned to any genus hitherto described. Its nearest relatives are *Rhagas*, *Haplomera*, *Hilarempis* and *Hilara*.

The main characters by which these genera differ from *Hesperempis* are herewith given:

Rhagas: Eyes of male contiguous; body with macrochætæ; anal angle of wing rectangular.

Haplomera: Femora thickened; third antennal joint long and nearly cylindrical.

Hilarempis: Body and legs with macrochætæ; anterior branch of third vein short.

Hilara: Auxiliary vein short and bent forward at tip.

In the Transactions of the American Entomological Society for 1902, page 277, I associated *Empis conjuncta* Coquillett with the present species as the American species of the genus *Rhagas* Walker. Mr. Coquillett* subsequently assigned *Synamphoteria* Loew, which is a genus of the sub-family Hemerodromiinae, as a synonym of *Rhagas*, and in his table stated that *Rhagas* has the anal cross vein perpendicular to the wing axis. In this he was in error: both forms are valid genera, in no ways related, for *Rhagas* is clearly an Empidine. I have since seen *Empis conjuncta*. It and *Empis triangula* Coquillett are normal species of the genus *Iteaphila*.

Through the kindness of Dr. K. Kertész, of the Hungarian National Museum, I have been put in possession of both sexes of *Rhagas unica* Walker, the type species of the genus. It is quite a different form from *mabelae*. Its salient characteristics

*Proc. Ent. Soc., Wash., 1903, p. 257.

are the following: Wings broad, anal angle strongly rectangular. Eyes of male contiguous. Arista, nearly one-half the length of the third antennal joint, its basal segment much thickened and many times longer than the minute, bristle-like apical portion. Dorsum of thorax with the usual rows of small but distinct macrochaetæ; those of the scutellar margin larger and six in number. Hypopygium terminal, small, but open, consisting of a pair of lateral slender curved and pointed valves, surrounding the sharp penis, and a basal dorsal pair of erect prongs, like those of *Iteaphila*, etc.

A new variety of *Papilio rutulus* Bois.

BY HENRY SKINNER.

Papilio rutulus arcticus.

Smaller than *rutulus*, expanding from the centre of the thorax to the tip of the primary wing 43 mm. Orange spot at angle of secondaries large and distinct, generally absent in *rutulus*. Marginal lunules of secondaries wider and not so elongate as in *rutulus*. Blue bands of secondaries below narrower and more distinct. Marginal lunules of secondaries below orange, an orange wash running to the cell.

Described from six males and one female. Five males and one female from Eagle City, Alaska, June 1st to 15th. One male from Athabasca River, Canada.

A New *Syntomeida*.

BY HENRY SKINNER.

S. befana n. sp.

Antennæ blue-black, outer third edged with white. Head and thorax blue-black; vertex of head with metallic-blue patch; tegulæ and patagia orange-yellow, edged with black; fore coxæ orange; legs blue-black, with tarsi streaked with white; abdomen black and metallic-blue; oval, orange subdorsal patches on the second to the last segment, those on first segment being quadrate; on abdomen below are orange bands on segments three to six. Forewing with an orange patch in and below middle of cell and a patch beyond the cell. Hindwing with a basal orange patch and a round patch in centre of wing.

From one specimen taken by Prof. F. H. Snow in the Baboquivari Mountains, Arizona. The species is related to *joda* Druce.